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First Report of Root Rot Caused by *Phytophthora cinnamomi* on Mountain Laurel (*Kalmia latifolia*) in Italy. A. Garibaldi, D. Bertetti A. Poli, L. Bizioli and M. L. Gullino, Centre of Competence for the Innovation in the Agro-Environmental Sector (AGROINNOVA), Via Leonardo da Vinci 44, 10095 Grugliasco, Italy.

Kalmia latifolia L., common name Mountain-laurel, is an evergreen shrub, increasingly popular in gardens, and also grown as potted plant, due to its round flowers, ranging from light pink to white, occurring in clusters in late spring. During July of 2011, in several commercial farms close to the Maggiore Lake (Verbano-Cusio-Ossola Province) in north-West Italy, 3 year old plants of *K. latifolia* “Olympic Fire”, showed extensive chlorosis and root rot. Twigs wilted and died, dropping leaves in some cases. Most frequently, wilted leaves persisted on stems. All of the root system was affected and vascular tissues of the lower stem showed brown discolorations. Finally, infected plants died. The disease was widespread and severe affecting 5% on 3,500 growing plants. A *Phytophthora*-like organism was isolated consistently on a medium selective for oomycetes (4) after disinfestation of rotting pieces from root of *K. latifolia* for 1 min in a solution containing 1% NaOCl. Tissue fragments of 1 mm² were excised from the margins of the lesions and plated. The pathogen was identified based on morphological and physiological features as *Phytophthora cinnamomi* (2). On V8 agar coenocytic hyphae, coralloid, with spherical lateral and terminal swellings, 23-46 (average 34) µm diam, single or in clusters, produced spherical, terminal chlamydospores, 35-47 (average 40) µm diam. Sporangia were not produced by growing a pure culture in a sterilized soil-extract in distilled water at neutral pH neither in V8. The Internal Transcribed Spacer (ITS) region of rDNA of a single isolate was amplified using the primers ITS1/ITS4 and sequenced. BLAST analysis (1) of the 898 bp segment showed a 99% homology with the sequence of *Phytophthora cinnamomi* GU799638. The nucleotide sequence has been assigned the GenBank Accession JQ951607. Pathogenicity of one of the isolates obtained from root

of infected plants was confirmed by inoculating 18 month-old plants of *K. latifolia* “Olympic fire”. The isolate was grown for 50 days on a mixture of 70:30 wheat:hemp kernels, and then 3 g per L of the inoculum was mixed into a substrate containing sphagnum peat moss-pumice-pine bark–clay (50:20:20:10 v/v). One plant per 2L pot was transplanted into the substrate, and constituted the experimental unit. Five plants were used for each treatment, non-inoculated plants represented the control treatment and the trial was repeated once. All plants were kept in a greenhouse at temperatures ranging from 25 to 30°C. Plants inoculated developed symptoms of chlorosis, wilting and root rot 70 days after the inoculation. Control plants remained symptomless. *P. cinnamomi* consistently was reisolated from inoculated plants. To our knowledge, this is the first report of *P. cinnamomi* on *K. latifolia* in Italy. The disease was reported in the U.S. (3). The economic importance of the disease is still relatively low due to the limited number of farms which grow this crop in Italy, although spread could increase as the popularity of plantings expand.

References: (1) S.F. Altschul *et al.* Nucleic Acids Research 25: 3389-3402, 1997 (2) D.C. Erwin, O.K. Ribeiro. Phytophthora Diseases Worldwide. APS Press, St Paul, MN, 592 pages, 1996. (3) L.F. Grand North Carolina agric. Res. Serv. Techn. Bull., 240, 157 pp, 1985. (4) H. Masago *et al.* Phytopathology, 67: 425, 1977.